Bayer MaterialScience Texin® 5250, Thermoplastic Polyurethane, Polyeth based, Medical

Subcategory: Polymer; Polyurethane, TP; Thermoplastic

Close Analogs: This product is no longer listed as a standard Bayer MaterialScience NAFTA product.

Key Words: TPUR

Material Notes:
This grade is in chemical compliance with 21 CFR 177.1680 (Polyurethane Resins) and 177.2600 (Rubber article intended for repeated use) subject to the limitations of this regulation and any other regulations.

It is the responsibility of the medical device, biological product, or pharmaceutical manufacturer (*Manufacturer*) to determine the suitability of all compo and raw materials, including the Bayer Corporation product identified in this electronic database, used in its final product in order to ensure safety and compliance with FDA regulations. This determination must include, as applicable, testing for suitability as an implant device and suitability as to contac and/or storage of solutions/liquids, including, without limitation, blood, medication, or other bodily fluids.

Under no circumstances, however, may the Bayer Corporation product be used in any cosmetic, reconstructive or reproductive implant applications. N any Bayer Corporation resin be used in any other bodily implant applications or any applications involving contact with or storage of human tissue, bloc bodily fluids for greater than 30 days, based on FDA modified ISO 10993, Part 1 *Biological Evaluation of Medical Devices* tests. Furthermore, for arom of Texin TPU resins, longer term uses are not permissible because possible hydrolysis of solid urethane may produce aromatic amines, such as methy dianiline (MDA).

The suitability of a Bayer product in a given end-use environment is dependent upon various conditions including, without limitation, chemical compatit temperature, part design, sterilization method, residual stress, or external loads. It is the responsibility of the Manufacturer to evaluate its final product actual end-use requirements and to adequately advise and warn purchasers and users thereof.

Single use medical devices made from Bayer products are not suitable for multiple uses. If the medical device is designed for multiple uses, it is the re of the Manufacturer to determine the appropriate number of permissible uses by evaluating the device under actual sterilization and end-use condition adequately advise and warn purchasers and users thereof.

If you have any questions on the regulatory status of any of Bayer Corporation products identified in this electronic database, please contact your local Corporation representative or the Bayer Corporation Regulatory Affairs Manager in the Health, Environment, and Safety Department in Pittsburgh, Pa.

Biocompatibility Information

The medical grades of the Bayer Corporation products identified in this electronic database have met the FDA modified ISO 10993, Part 1 *Biological E of Medical Devices* tests with human tissue contact time of 30 days or less. ONLY THESE PRODUCTS MAY BE CONSIDERED AS CANDIDATES FC APPLICATIONS REQUIRING BIOCOMPATIBILITY. No *medical grade* products will be available for sale until successful completion of testing.

Regrind resins must not be used in medical applications requiring biocompatibility.

Sterilization Information

The sterilization method and the number of sterilization cycles a part made from a Bayer Corporation product identified in this electronic database can will vary depending upon the type and grade of resin, part design, processing parameters, sterilization temperature, and chemical environment. Theref Manufacturer must evaluate each device to determine the sterilization method and the number of permissible sterilization cycles appropriate for actual requirements and must to adequately advise and warn purchasers and users thereof.

Parts molded or extruded from Texin TPU resins are sterilizable using ethylene oxide, radiation, or dry heat. Steam autoclaving and boiling water techr possible only with selected aliphatic grades of Texin. These sterilization methods must not be used with aromatic grades of Texin resins because poss hydrolysis of solid urethane may produce aromatic amines, such as methylene dianiline (MDA).

Information provided by Bayer Corporation, Plastics Division

Click here to view available vendors for this material.

Physical Properties	Metric	English	Con
Density	1.15 g/cc	0.0415 lb/in³	ASTI
Linear Mold Shrinkage	0.008 cm/cm	0.008 in/in	ASTI
Linear Mold Shrinkage, Transverse	0.008 cm/cm	0.008 in/in	ASTI
Mechanical Properties			
Hardness, Shore D	50	50	ASTM
Tensile Strength, Ultimate	41 MPa	5950 psi	ASTI
Tensile Strength, Yield	12 MPa	1740 psi	50% Elongation; ASTI
Elongation at Break	400 %	400 %	ASTI
Flexural Modulus	0.11 GPa	16 ksi	ASTI
Resilience	35	35	% Bayshore Resilience; ASTM
Tear Strength	130 kN/m	742 pli	Die C; ASTI
Taber Abrasion, mg/1000 Cycles	75	75	H-18 Wheel, 1000 g load, ASTM
Compression Set	15 %	15 %	22 hours at RT (Postcured); ASTM
Compression Set, Elevated Temperature	40 %	40 %	22 hours at 158°F (Postcured); ASTM
Thermal Properties			
Vicat Softening Point	128 °C	262 °F	Rate A; ASTM
Brittleness Temperature	Max -68 °C	Max -90.4 °F	ASTI
Glass Temperature	-27 °C	-16.6 °F	
Processing Properties			
Processing Temperature	205 °C	401 °F	Ideal melt temp

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Some of the values displayed above may have been converted from their original units and/or rounded in order to display the information in a consistar Users requiring more precise data for scientific or engineering calculations can click on the property value to see the original value as well as raw conv equivalent units. We advise that you only use the original value or one of its raw conversions in your calculations to minimize rounding error. We also a you refer to MatWeb's disclaimer and terms of use regarding this information. Click here to view all the property values for this datasheet as they were entered into MatWeb.

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Linear Mold Shrinkage, Transverse	0.008 cm/cm	0.008 in/in	ASTI
Mechanical Properties			
Hardness, Shore A	86	86	ASTM
Tensile Strength, Ultimate	38 MPa	5510 psi	ASTI
Tensile Strength, Yield	4.8 MPa	696 psi	50% Elongation; ASTI
Elongation at Break	500 %	500 %	ASTI
Flexural Modulus	0.027 GPa	3.92 ksi	ASTI
Resilience	45	45	% Bayshore Resilience; ASTM
Tear Strength	90 kN/m	514 pli	Die C; ASTI
Taber Abrasion, mg/1000 Cycles	30	30	H-18 Wheel, 1000 g load, ASTM
Compression Set	16 %	16 %	22 hours at RT (Postcured); ASTM
Compression Set, Elevated Temperature	40 %	40 %	22 hours at 158°F (Postcured); ASTM
Thermal Properties			
Vicat Softening Point	80 °C	176 °F	Rate A; ASTM
Brittleness Temperature	Max -68 °C	Max -90.4 °F	ASTI
Glass Temperature	-46 °C	-50.8 °F	
Processing Properties			
Processing Temperature	195 °C	383 °F	Ideal melt temp

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